

**To:** Russo, Rebecca[Russo.Rebecca@epa.gov]  
**From:** Faulk, Libby  
**Sent:** Sat 8/8/2015 5:20:54 AM  
**Subject:** RE: Summary of the evaluation of pH data

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Libby Faulk, Program Manager

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**From:** Russo, Rebecca  
**Sent:** Friday, August 07, 2015 7:30 PM  
**To:** Faulk, Libby  
**Subject:** FW: Summary of the evaluation of pH data

Rebecca A. Russo

Region 8 Congressional and Intergovernmental Liaison

Office: 303-312-6757

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**From:** Russo, Rebecca

**Sent:** Friday, August 07, 2015 5:20 PM

**To:** 'john\_whitney@bennet.senate.gov'; 'rosemary\_rodriguez@bennet.senate.gov'; 'sebastian\_dawiskiba@bennet.senate.gov'; 'chuck\_poplstein@gardner.senate.gov'; 'betsy\_bair@gardner.senate.gov'; 'Marcus, Darlene'; 'Aaron'; 'Swager, Curtis (Gardner)'; 'jennifer\_loraine@gardner.senate.gov'; 'chris\_hansen@gardner.senate.gov'; 'nicole\_frazier@gardner.senate.gov'; 'tim\_prowitt@bennet.senate.gov'; 'laura\_sherman@bennet.senate.gov'; 'tim.martin@mail.house.gov'; Gray, David; Distefano, Nichole; Levine, Carolyn; Snyder, Raquel

**Subject:** Summary of the evaluation of pH data

The following is a summary of the evaluation of pH data collected as of August 6, 2015.

Additional information related to additional data, including metals, is being developed and will be provided in a separate statement.

pH (a measure of acidity) was measured at a number of locations along Cement Creek and the Animas River to Durango and beyond to Farmington, New Mexico. Except for locations within Cement Creek, generally, pH levels were measured before the arrival of the contaminant plume and found to range between 6.5 and 7.6. When the contaminated water from the mine release passed a sampling location, the pH lowered (indicating more acid) to approximately 4.8 (below Silverton). A pH of 4.5 is consistent with the pH of a liquid like black coffee. Later, however, in locations down river, the pH began to return to pre-incident levels. Water acidity levels in the Animas above Cement Creek have been consistent over the past two days at approximately 6.4 to 6.8. For reference, the pH of saliva is roughly 6 and the pH of pure water is 7. The acidity level in Cement Creek has remained low at 3.74 since the mine release. Tomato juice and apples also have a pH of approximately 3.74. While this reference information is relevant to skin exposure, the evaluation of impacts of these pH levels on fish and other aquatic life is ongoing.

## pH of Common Substances

ACIDIC						NEUTRAL	ALKALINE OR BASIC							
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Battery Acid														
	Stomach Acid (Hydrochloric)													
		Lemon Juice, Vinegar												
		Coke and Pepsi												
		Grapefruit and Orange Juice												
		Apples, Dr. Pepper Soda												
		Tomato Juice, Beer												
		Acid Rain, 7-UP Soda												
		Black Coffee, Pepto Bismol												
		Healthy Skin, Hair and Nails												
		Urine, Saliva, Milk												
							"Pure" Water, Blood							
							Shampoos (7.0 to 10.0)							
							Baking Soda, Seawater, Eggs							
							Perm Solutions (8.5 to 9.5)							
							Toothpaste, Hand Soap							
										Milk of Magnesia, Mild Detergent				
										Household Ammonia and Cleaners				
										Soapy Water				
										Hair Straighteners (11.5 to 14.0)				
													Bleach, Oven Cleaner	
														Liquid Drain Cleaner, Caustic Soda

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